

=> d his 120

(FILE 'MEDLINE, HCAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
08:19:42 ON 13 MAR 2003)

L20 46 DUP REM L19 (87 DUPLICATES REMOVED)

=> d que 120

L1 1 SEA FILE=REGISTRY MHHHHHHMESGPESVSSNQS.{0-}PAFIQQVLVNIASLFSGYLS
/SQSP
L2 1 SEA L1
L3 1678 SEA BHATIA A?/AU
L4 1142 SEA PROBST P?/AU
L5 2805 SEA L3 OR L4
L6 21 SEA L5 AND CHLAMYDIA? AND ANTIGEN?
L7 3842 SEA CHLAMYDIA?(5A) (ANTIGEN? OR IMMUNOGEN?)
L8 90124 SEA (STIMULAT? OR EXPAND? OR INCREAS? OR ATTRACT?) (5A)
(T-CELL# OR T(A) CELL#)
L9 93 SEA L7 AND L8
L10 334 SEA CHLAMYDIA?(5A) (IMMUNIZ? OR IMMUNIS?)
L11 11 SEA L10 AND L8
L12 22153 SEA (STIMULAT? OR EXPAND? OR INCREAS? OR ATTRACT?) (5A)
(T-LYMPHOCYTE# OR T(A) LYMPHOCYTE#)
L13 6 SEA L12 AND L7
L14 0 SEA L12 AND L10
L15 1 SEA CT875
L16 1 SEA CT622
L17 823 SEA CHLAMYDIA?(5A) (VACCIN?)
L18 23 SEA L17 AND (L8 OR L12)
L19 133 SEA L2 OR L6 OR L9 OR L11 OR (L13 OR L14 OR L15 OR L16) OR L18
L20 46 DUP REM L19 (87 DUPLICATES REMOVED)

=> d ibib abs 120 1-46

L20 ANSWER 1 OF 46 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
ACCESSION NUMBER: 2002:688472 HCAPLUS
DOCUMENT NUMBER: 137:231341
TITLE: **Chlamydia antigens for treatment
and diagnosis of Chlamydial infection**
INVENTOR(S): **Probst, Peter; Bhatia, Ajay;
Skeiky, Yasir A. W.; Fling, Steven P.**
PATENT ASSIGNEE(S): Corixa Corporation, USA
SOURCE: U.S., 34 pp., Cont.-in-part of U.S. 6,166,177.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6447779	B1	20020910	US 1999-288594	19990408
US 6166177	A	20001226	US 1998-208277	19981208
WO 2000034483	A2	20000615	WO 1999-US29012	19991208
WO 2000034483	A3	20011101		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,
CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,

MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
 SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
 DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
 CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 EP 1144642 A2 20011017 EP 1999-963037 19991208
 EP 1144642 A3 20020605
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 BR 9916020 A 20020122 BR 1999-16020 19991208
 JP 2002531129 T2 20020924 JP 2000-586916 19991208
 US 6432916 B1 20020813 US 2000-556877 20000419
 US 6448234 B1 20020910 US 2000-620412 20000720
 NO 2001002812 A 20010802 NO 2001-2812 20010607
 PRIORITY APPLN. INFO.: US 1998-208277 A2 19981208
 US 1999-288594 A 19990408
 US 1999-410568 A 19991001
 US 1999-426571 A 19991022
 US 1999-454684 A2 19991203
 WO 1999-US29012 W 19991208
 US 2000-556877 A2 20000419
 US 2000-598419 A2 20000620

AB Compds. and methods for the diagnosis and treatment of **Chlamydial** infection are disclosed. The compds. provided include polypeptides that contain at least one **antigenic** portion of a **Chlamydia antigen** and DNA sequences encoding such polypeptides. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of **Chlamydial** infection in patients and in biol. samples.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 2 OF 46 HCPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:793930 HCPLUS
 DOCUMENT NUMBER: 137:307015
 TITLE: Method for identification of proteins from intracellular bacteria
 INVENTOR(S): Shaw, Allan Christian; Vandahl, Brian Berg
 PATENT ASSIGNEE(S): Den.
 SOURCE: PCT Int. Appl., 179 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002082091	A2	20021017	WO 2002-DK234	20020409
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DK 2001-581 A 20010409
US 2001-282513P P 20010409

AB The present invention relates to a novel combination of methods that enables identification of proteins secreted from intracellular bacteria regardless of the secretion pathway. The invention further provides proteins that are identified by these methods. Secreted proteins are known to be suitable candidates for inclusion in immunogenic compns. and/or diagnostic purposes. The invention also provides peptide epitopes (T-cell epitopes) from the identified secreted proteins, as well as nucleic acid compds. that encode the proteins. The invention further comprises various applications of the proteins or fragments thereof, such as pharmaceutical and diagnostic applications.

L20 ANSWER 3 OF 46 HCPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:276109 HCPLUS

DOCUMENT NUMBER: 136:306663

TITLE: Cloning and expression of genes for polymorphic membrane proteins of **Chlamydia** and the development of **vaccines**

INVENTOR(S): Jackson, W. James

PATENT ASSIGNEE(S): Antex Biologics, Inc., USA

SOURCE: PCT Int. Appl., 160 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002028998	A2	20020411	WO 2001-US30345	20010928
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2001094833	A5	20020415	AU 2001-94833	20010928

PRIORITY APPLN. INFO.: US 2000-677752 A 20001002
WO 2001-US30345 W 20010928

AB The invention discloses the **Chlamydia** PMPE and PMPI polypeptide, polypeptides derived therefor, (PMP-derived polypeptides), nucleotide sequences encoding said polypeptides, antibodies that specifically bind the PMP polypeptides and PMP-derived polypeptides and T-cells specific for PMP polypeptides and PMP-derived polypeptides. Genes for polymorphic membrane proteins (PMPs) PMPE and PMPI of **Chlamydia** are cloned and expressed. The proteins are antigenic and may be useful in vaccines stimulating T cell responses. Antibodies to the proteins may be useful as anal. and diagnostic reagents. The invention addnl. discloses methods of inducing in animals an immune response to **Chlamydia** cells, **Chlamydia** elementary bodies, and/or cells expressing Chlamydial proteins, e.g., cell infected with **Chlamydia**. Cloning of the **Chlamydia trachomatis** pmpE and pmpI genes by PCR and the

manuf. of the proteins in *Escherichia coli* using com. expression vectors are described. Female mice vaccinated intranasally with PMPE showed improved resistance to *Chlamydia*-induced infertility.

L20 ANSWER 4 OF 46 HCPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:90085 HCPLUS
 DOCUMENT NUMBER: 136:166047
 TITLE: Compounds and methods for treatment and diagnosis of *Chlamydial* infection
 INVENTOR(S): Fling, Steven P.; Skeiky, Yasir A. W.; **Probst, Peter; Bhatia, Ajay**
 PATENT ASSIGNEE(S): Corixa Corporation, USA
 SOURCE: PCT Int. Appl., 537 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002008267	A2	20020131	WO 2001-US23121	20010720
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 6448234	B1	20020910	US 2000-620412	20000720
US 2002061848	A1	20020523	US 2001-841132	20010423
PRIORITY APPLN. INFO.:				
		US 2000-620412	A	20000720
		US 2001-841132	A	20010423
		US 1998-208277	A2	19981208
		US 1999-288594	A2	19990408
		US 1999-410568	A2	19991001
		US 1999-426571	A2	19991022
		US 1999-454684	A2	19991203
		US 2000-556877	A2	20000419
		US 2000-598419	A2	20000620

AB Compds. and methods for the diagnosis and treatment of *Chlamydial* infection are disclosed. The compds. provided include polypeptides that contain at least one **antigenic** portion of a *Chlamydia* **antigen** and DNA sequences encoding such polypeptides. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of *Chlamydial* infection in patients and in biol. samples.

L20 ANSWER 5 OF 46 HCPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:778631 HCPLUS
 DOCUMENT NUMBER: 137:290038
 TITLE: Nucleic acids and proteins from *Chlamydia* trachomatis and methods for treatment and diagnosis of *chlamydial* infection
 INVENTOR(S): **Bhatia, Ajay; Probst, Peter**

PATENT ASSIGNEE(S): Corixa Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 42 pp., Cont.-in-part of U.S.
Ser. No. 841,260.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002146776	A1	20021010	US 2001-7693	20011205
PRIORITY APPLN. INFO.:			US 2000-198853P	P 20000421
			US 2000-219752P	P 20000720
			US 2001-841260	A2 20010423

AB Nucleic acid and protein compds. and methods for the diagnosis and treatment of **chlamydial** infection are disclosed. The compds. provided include polypeptides that contain at least one **antigenic** portion of a **Chlamydia antigen** and genomic DNA sequences encoding such polypeptides from *C. trachomatis* serovar E and serovar D. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of **chlamydial** infection in patients and in biol. samples. The present invention claims SEQ IDs 1-48, 80-109, and 114-157, but the Sequence Listing was not made available on publication of the patent application.

L20 ANSWER 6 OF 46 HCPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:392223 HCPLUS
DOCUMENT NUMBER: 136:397052
TITLE: Compounds and methods for treatment and diagnosis of **Chlamydial** infection
INVENTOR(S): Bhatia, Ajay; Skeiky, Yasir A. W.;
Probst, Peter
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 66 pp., Cont.-in-part of U.S.
Ser. No. 620,412.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002061848	A1	20020523	US 2001-841132	20010423
US 6448234	B1	20020910	US 2000-620412	20000720
WO 2002008267	A2	20020131	WO 2001-US23121	20010720
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.:

US 2000-620412	A2 20000720
US 1998-208277	A2 19981208
US 1999-288594	A2 19990408
US 1999-410568	A2 19991001
US 1999-426571	A2 19991022
US 1999-454684	A2 19991203
US 2000-556877	A2 20000419
US 2000-598419	A2 20000620
US 2001-841132	A 20010423

AB Compds. and methods for the diagnosis and treatment of **Chlamydial** infection are disclosed. The compds. provided include polypeptides that contain at least one **antigenic** portion of a **Chlamydia antigen** and DNA sequences encoding such polypeptides. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of **Chlamydial** infection in patients and in biol. samples. Compds. and methods for the diagnosis and treatment of **Chlamydial** infection are disclosed. The compds. provided include polypeptides that contain at least one **antigenic** portion of a **Chlamydia antigen** and DNA sequences encoding such polypeptides. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of **Chlamydial** infection in patients and in biol. samples.

L20 ANSWER 7 OF 46 HCPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:609966 HCPLUS
 DOCUMENT NUMBER: 137:168258
 TITLE: **Chlamydia antigens** or fragments
 and oligonucleotide probes and primers for treatment
 and diagnosis of **chlamydial** infection
 INVENTOR(S): **Probst, Peter; Bhatia, Ajay;**
 Skeiky, Yasir A. W.; Fling, Steven P.
 PATENT ASSIGNEE(S): Corixa Corporation, USA
 SOURCE: U.S., 194 pp., Cont. of U.S. Ser. No. 454,684.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6432916	B1	20020813	US 2000-556877	20000419
US 6166177	A	20001226	US 1998-208277	19981208
US 6447779	B1	20020910	US 1999-288594	19990408
US 6448234	B1	20020910	US 2000-620412	20000720
WO 2001040474	A2	20010607	WO 2000-US32919	20001204
WO 2001040474	A3	20020307		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,			

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1238084 A2 20020911 EP 2000-980969 20001204
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
NO 2002002592 A 20020719 NO 2002-2592 20020531
PRIORITY APPLN. INFO.: US 1998-208277 A2 19981208
US 1999-288594 A2 19990408
US 1999-410568 A2 19991001
US 1999-426571 A2 19991022
US 1999-454684 A2 19991203
US 2000-556877 A2 20000419
US 2000-598419 A2 20000620
WO 2000-US32919 W 20001204

AB Compds. and methods for the diagnosis and treatment of **Chlamydial** infection are disclosed. The compds. provided include polypeptides that contain at least one **antigenic** portion of a **Chlamydia** **antigen** and DNA sequences encoding such polypeptides. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of **Chlamydial** infection in patients and in biol. samples.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 8 OF 46 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2002468555 MEDLINE
DOCUMENT NUMBER: 22215724 PubMed ID: 12228318
TITLE: **Chlamydial antigens** colocalize within IncA-laden fibers extending from the inclusion membrane into the host cytosol.
AUTHOR: Brown W J; Skeiky Y A W; **Probst P**; Rockey D D
CORPORATE SOURCE: Department of Microbiology, Oregon State University, Corvallis, Oregon 97331, USA.
CONTRACT NUMBER: R01AI48679-01 (NIAID)
R29AI42869 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (2002 Oct) 70 (10) 5860-4.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200210
ENTRY DATE: Entered STN: 20020914
Last Updated on STN: 20021019
Entered Medline: 20021018

AB **Chlamydial** IncA localizes to the inclusion membrane and to vesicular fibers extending away from the inclusion. **Chlamydial** outer membrane components, in the absence of developmental forms, are found within these fibers. This colocalization may explain how **chlamydial** developmental form **antigens** are localized outside of the inclusion within infected cells.

L20 ANSWER 9 OF 46 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 2002426435 MEDLINE
DOCUMENT NUMBER: 22170721 PubMed ID: 12183524
TITLE: **Immunization with the Chlamydia** **trachomatis** mouse pneumonitis major outer membrane protein

by use of CpG oligodeoxynucleotides as an adjuvant induces a protective immune response against an intranasal chlamydial challenge.

AUTHOR: Pal Sukumar; Davis Heather L; Peterson Ellena M; de la Maza Luis M
CORPORATE SOURCE: Department of Pathology, Medical Sciences, University of California, Irvine, Irvine, California 92697-4800, USA.
CONTRACT NUMBER: AI-32248 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (2002 Sep) 70 (9) 4812-7.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200209
ENTRY DATE: Entered STN: 20020817
Last Updated on STN: 20020919
Entered Medline: 20020918

AB Recently, we have shown that a vaccine consisting of a purified preparation of the *Chlamydia trachomatis* mouse pneumonitis (MoPn) major outer membrane protein (MOMP) and Freund's adjuvant can protect mice against a genital challenge. Here, we wanted to determine if CpG motifs could be used as an immune modulator to the MOMP to induce protection in mice against an intranasal (i.n.) challenge. One-week-old BALB/c mice were immunized intramuscularly and subcutaneously either once or three times at 2-week intervals with MOMP and CpG suspended in aluminum hydroxide (alum). Negative controls received ovalbumin, CpG, and alum. Positive controls were immunized i.n. with *C. trachomatis* MoPn elementary bodies (EB). Six weeks after the last immunization, mice were challenged i.n. with 10(4) inclusion-forming units (IFU) of the *C. trachomatis* MoPn serovar. Mice that received MOMP, CpG, and alum had a strong immune response, as shown by a high titer of serum antibodies to *Chlamydia* and significant lymphoproliferation of **T-cells** following **stimulation** with *C. trachomatis* EB. After the i.n. challenge mice immunized with MOMP, CpG, and alum showed significantly less body weight loss than the corresponding control mice immunized with ovalbumin, CpG, and alum. Ten days after the challenge the animals were euthanized, their lungs were weighed, and the numbers of IFU in the lungs were determined. The average weight of the lungs of the mice immunized with MOMP, CpG, and alum was significantly less than average weight of the lungs of the mice immunized with ovalbumin, CpG, and alum. Also, the average number of IFU recovered per mouse immunized with MOMP, CpG, and alum was significantly less than the average number of IFU per mouse detected in the mice inoculated with ovalbumin, CpG, and alum. In conclusion, our data show that CpG sequences can be used as an effective adjuvant with the *C. trachomatis* MoPn MOMP to elicit a protective immune response in mice against a chlamydial respiratory challenge.

L20 ANSWER 10 OF 46 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 2002440162 MEDLINE
DOCUMENT NUMBER: 22181518 PubMed ID: 12193722
TITLE: Multiple ***Chlamydia pneumoniae* antigens**
prime CD8+ Tc1 responses that inhibit intracellular growth
of this vacuolar pathogen.
AUTHOR: Wizel Benjamin; Starcher Barry C; Samten Buka; Chroneos
Zissis; Barnes Peter F; Dzuris John; Higashimoto Yuichiro;
Appella Ettore; Sette Alessandro
CORPORATE SOURCE: Center for Pulmonary and Infectious Disease Control,
Department of Microbiology and Immunology, University of

CONTRACT NUMBER: Texas Health Center, Tyler 75708, USA.. bwizel@uthct.edu
R01 HL70641-01 (NHLBI)
SOURCE: JOURNAL OF IMMUNOLOGY, (2002 Sep 1) 169 (5) 2524-35.
Journal code: 2985117R. ISSN: 0022-1767.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200209
ENTRY DATE: Entered STN: 20020829
Last Updated on STN: 20020928
Entered Medline: 20020927
AB CD8(+) T cells play an essential role in immunity to Chlamydia pneumoniae (Cpn). However, the target Ags recognized by Cpn-specific CD8(+) T cells have not been identified, and the mechanisms by which this T cell subset contributes to protection remain unknown. In this work we demonstrate that Cpn infection primes a pathogen-specific CD8(+) T cell response in mice. Eighteen H-2(b) binding peptides representing sequences from 12 Cpn Ags sensitized target cells for MHC class I-restricted lysis by CD8(+) CTL generated from the spleens and lungs of infected mice. Peptide-specific IFN-gamma-secreting CD8(+) T cells were present in local and systemic compartments after primary infection, and these cells **expanded** after pathogen re-exposure. CD8(+) T **cell** lines to the 18 Cpn epitope-bearing peptides were cytotoxic, displayed a memory phenotype, and secreted IFN-gamma and TNF-alpha, but not IL-4. These CTL lines lysed Cpn-infected macrophages, and the lytic activity was inhibited by brefeldin A, indicating endogenous processing of CTL Ags. Finally, Cpn peptide-specific CD8(+) CTL suppressed chlamydial growth in vitro by direct lysis of infected cells and by secretion of IFN-gamma and other soluble factors. These studies provide information on the mechanisms by which CD8(+) CTL protect against Cpn, furnish the tools to investigate their possible role in immunopathology, and lay the foundation for future work to develop vaccines against acute and chronic Cpn infections.

L20 ANSWER 11 OF 46 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 2002125304 MEDLINE
DOCUMENT NUMBER: 21843093 PubMed ID: 11854188
TITLE: Dendritic cells pulsed with a recombinant **chlamydial** major outer membrane protein antigen elicit a CD4(+) type 2 rather than type 1 immune response that is not protective.
AUTHOR: Shaw Jennifer; Grund Vernon; Durling Luke; Crane Debbie; Caldwell Harlan D
CORPORATE SOURCE: Laboratory of Intracellular Parasites, Rocky Mountain Laboratories, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Hamilton, Montana 59840, USA.
SOURCE: INFECTION AND IMMUNITY, (2002 Mar) 70 (3) 1097-105.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200204
ENTRY DATE: Entered STN: 20020226
Last Updated on STN: 20020403
Entered Medline: 20020401
AB Chlamydia trachomatis is an obligate intracellular bacterium that infects the oculogenital mucosae. C. trachomatis infection of the eye causes

trachoma, the leading cause of preventable blindness. Infections of the genital mucosae are a leading cause of sexually transmitted diseases. A vaccine to prevent chlamydial infection is needed but has proven difficult to produce by using conventional vaccination approaches. Potent immunity to vaginal rechallenge in a murine model of chlamydial genital infection has been achieved only by infection or by immunization with dendritic cells (DC) pulsed ex vivo with whole inactivated organisms. Immunity generated by infection or ex vivo antigen-pulsed DC correlates with a chlamydia-specific interleukin 12 (IL-12)-dependent CD4(+) Th1 immune response. Because of the potent antichlamydial immunizing properties of DC, we hypothesized that DC could be a powerful vehicle for the delivery of individual chlamydial antigens that are thought to be targets for more conventional vaccine approaches. Here, we investigated the recombinant chlamydial major outer membrane protein (rMOMP) as a target antigen. The results demonstrate that DC pulsed with rMOMP secrete IL-12 and stimulate infection-sensitized CD4(+) T cells to proliferate and secrete gamma interferon. These immunological properties implied that rMOMP-pulsed DC would be potent inducers of MOMP-specific CD4(+) Th1 immunity in vivo; however, we observed the opposite result. DC pulsed ex vivo with rMOMP and adoptively transferred to naive mice generated a Th2 rather than a Th1 anti-MOMP immune response, and immunized mice were not protected following infectious challenge. We conclude from these studies that the immunological properties of ex vivo pulsed DC are not necessarily predictive of the immune response generated in vivo following adoptive transfer. These findings suggest that the nature of the antigen used to pulse DC ex vivo influences the Th1-Th2 balance of the immune response in vivo.

L20 ANSWER 12 OF 46 HCPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:239413 HCPLUS
 DOCUMENT NUMBER: 136:354082
 TITLE: Uptake and processing of Chlamydia trachomatis by human dendritic cells
 AUTHOR(S): Matyszak, Malgosia K.; Young, Joyce L.; Gaston, J. S. Hill
 CORPORATE SOURCE: Department of Medicine, Addenbrooke's Hospital, University of Cambridge Clinical School, Cambridge, UK
 SOURCE: European Journal of Immunology (2002), 32(3), 742-751
 CODEN: EJIMAF; ISSN: 0014-2980
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Chlamydia trachomatis (CT) causes several sexually transmitted diseases. In 2-5% of cases, CT infection leads to the development of reactive arthritis. Dendritic cells (DC) are central in T cell priming and the induction of antigen specific immunity. Here the authors have studied the uptake and processing of CT serovar L2 by human DC, and their ability to present CT antigens to both CD4+ and CD8+ T cells. The authors show that the entry of CT was mediated by the attachment of CT to heparan sulfates and could be inhibited by heparin. There was no inhibition of uptake by an agent which blocks micropinocytosis. Infecting DC with CT led to their activation and the prodn. of IL-12 and TNF-.alpha. but not IL-10. Following invasion, CT was confined to distinct vacuoles which were visualized with anti-CT antibodies using confocal microscopy. Unlike with epithelial cells, these vacuoles did not develop into characteristic inclusion bodies. In the first 48 h, CT+ vacuoles were neg. for Lamp-1 and MHC class II. Despite no obvious co-localization between CT vacuoles

and MHC loading compartments, infected DC efficiently presented CT antigens to CD4+ T cells. Infected DC also **expanded** CT specific CD8+ T cells, allowing the authors to generate a no. of CT-reactive CD8+ T cell clones. There is still controversy about the importance of chlamydia-specific CD8+ T cell responses in patients with arthritis. This is largely due to the difficulties in studying CTL responses at the clonal level. The use of DC as antigen-presenting cells should enable more detailed characterization of these CTL responses.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 13 OF 46 HCPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:798255 HCPLUS

DOCUMENT NUMBER: 135:343284

TITLE: **Antigenic** protein and DNA compounds and methods for treatment and diagnosis of **chlamydial** infection

INVENTOR(S): **Bhatia, Ajay; Probst, Peter;**

Stromberg, Erika Jean

PATENT ASSIGNEE(S): Corixa Corporation, USA

SOURCE: PCT Int. Appl., 208 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001081379	A2	20011101	WO 2001-US13081	20010423
WO 2001081379	A3	20020919		
			W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	
			RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
EP 1278855	A2	20030129	EP 2001-928775	20010423
			R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR	
PRIORITY APPLN. INFO.:			US 2000-198853P	P 20000421
			US 2000-219752P	P 20000720
			WO 2001-US13081	W 20010423

AB Compds. and methods for the diagnosis and treatment of **chlamydial** infection are disclosed. The compds. provided include polypeptides that contain at least one **antigenic** portion of a **Chlamydia trachomatis** **antigen** and DNA sequences encoding such polypeptides. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of **chlamydial** infection in patients and in biol. samples.

L20 ANSWER 14 OF 46 HCPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:417155 HCPLUS

DOCUMENT NUMBER: 135:45174
 TITLE: **Antigenic compounds and methods for treatment and diagnosis of Chlamydial infection**
 INVENTOR(S): **Probst, Peter; Bhatia, Ajay;**
 PATENT ASSIGNEE(S): Skeiky, Yasir A. W.; Fling, Steven P.; Scholler, John Corixa Corporation, USA
 SOURCE: PCT Int. Appl., 293 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001040474	A2	20010607	WO 2000-US32919	20001204
WO 2001040474	A3	20020307		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6432916	B1	20020813	US 2000-556877	20000419
EP 1238084	A2	20020911	EP 2000-980969	20001204
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
NO 2002002592	A	20020719	NO 2002-2592	20020531
PRIORITY APPLN. INFO.:			US 1999-454684	A 19991203
			US 2000-556877	A 20000419
			US 2000-598419	A 20000620
			US 1998-208277	A2 19981208
			US 1999-288594	A2 19990408
			US 1999-410568	A2 19991001
			US 1999-426571	A2 19991022
			WO 2000-US32919	W 20001204

AB Compds. and methods for the diagnosis and treatment of **Chlamydial** infection are disclosed. The compds. provided include polypeptides that contain at least one **antigenic** portion of a **Chlamydia** **antigen** and DNA sequences encoding such polypeptides from **Chlamydia trachomatis** and **C. pneumoniae** isolated using retroviral expression vector systems and subsequent immunol. anal. and epitope mapping. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of **Chlamydial** infection in patients and in biol. samples. In particular, fusion proteins are constructed from the **Chlamydial** proteins PmpA, PmpF, PmpH, PmpB, and PmpC fused with amino acid residues 192-323 of the Ra2 MTB32A serine proteinase from *Mycobacterium tuberculosis*.

L20 ANSWER 15 OF 46 HCPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2001:396887 HCPLUS
 DOCUMENT NUMBER: 135:29852

TITLE: Primary nucleotide sequence of the shrimp white spot bacilliform virus, discovery systems containing this sequence and detection kits and antiviral targets for detection and controlling shrimp virus outbreak and spread

INVENTOR(S): Xu, Xun; Yang, Feng; He, Jun; Pham, Lin-Zuo; He, Mei; Ye, Yun; Shen, Yan; Kodira, Chinnappa

PATENT ASSIGNEE(S): Pe Corporation (NY), USA; The Third Institute of Oceanography, State Oceanic Administration, China; Sinogenomax Co. Ltd.

SOURCE: PCT Int. Appl., 627 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001038351	A2	20010531	WO 2000-US28888	20001108
WO 2001038351	A3	20020510		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CN 1303942	A	20010718	CN 1999-124717	19991124
EP 1226163	A2	20020731	EP 2000-978247	20001108
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT; LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRIORITY APPLN. INFO.:			CN 1999-124717	A 19991124
			WO 2000-US28888	W 20001108

AB The present invention is based on shotgun sequencing and assembly of 5795 nucleic acid fragments of the shrimp white spot bacilliform virus (WSBV) genome. The present invention provides the complete primary nucleotide sequence of the WSBV genome in a series of genomic and 150 predicted gene/transcript sequences. This information is provided in the form of sequences, annotation information, and computer-based systems, and can be used to generate antiviral agents and nucleic acid and protein-based viral detection reagents and kits such as nucleic acid arrays.

L20 ANSWER 16 OF 46 MEDLINE DUPLICATE 6

ACCESSION NUMBER: 2001205296 MEDLINE

DOCUMENT NUMBER: 21107687 PubMed ID: 11158611

TITLE: CD8+ T cells recognize an inclusion membrane-associated protein from the vacuolar pathogen **Chlamydia trachomatis**.

AUTHOR: Fling S P; Sutherland R A; Steele L N; Hess B; D'Orazio S E; Maisonneuve J; Lampe M F; **Probst P**; Starnbach M N

CORPORATE SOURCE: Corixa Corporation, Seattle, WA 98104, USA.. sfling@corixa.com

CONTRACT NUMBER: AI31448 (NIAID)
AI39558 (NIAID)

SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE

UNITED STATES OF AMERICA, (2001 Jan 30) 98 (3) 1160-5.
Journal code: 7505876. ISSN: 0027-8424.

PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200104
ENTRY DATE: Entered STN: 20010417
Last Updated on STN: 20010417
Entered Medline: 20010412

AB During infection with **Chlamydia trachomatis**, CD8(+) T cells are primed, even though the bacteria remain confined to a host cell vacuole throughout their developmental cycle. Because CD8(+) T cells recognize antigens processed from cytosolic proteins, the **Chlamydia antigens** recognized by these CD8(+) T cells very likely have access to the host cell cytoplasm during infection. The identity of these *C. trachomatis* proteins has remained elusive, even though their localization suggests they may play important roles in the biology of the organism. Here we use a retroviral expression system to identify Cap1, a 31-kDa protein from *C. trachomatis* recognized by protective CD8(+) T cells. Cap1 contains no strong homology to any known protein. Immunofluorescence microscopy by using Cap1-specific antibody demonstrates that this protein is localized to the vacuolar membrane. Cap1 is virtually identical among the human *C. trachomatis* serovars, suggesting that a vaccine incorporating Cap1 might enable the vaccine to protect against all *C. trachomatis* serovars. The identification of proteins such as Cap1 that associate with the inclusion membrane will be required to fully understand the interaction of *C. trachomatis* with its host cell.

L20 ANSWER 17 OF 46 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2002:223214 BIOSIS
DOCUMENT NUMBER: PREV200200223214
TITLE: Discovery of new vaccine candidates for prevention and treatment of **Chlamydia**.
AUTHOR(S): Jen, S. S. (1); Stromberg, E. J. (1); **Probst, P.**
(1); Bhatia, A. (1); Skeiky, Y. A. W. (1)
CORPORATE SOURCE: (1) Corixa Corp, Seattle, WA USA
SOURCE: Abstracts of the General Meeting of the American Society for Microbiology, (2001) Vol. 101, pp. 343.
<http://www.asmusa.org/mtgsrc/generalmeeting.htm>. print.
Meeting Info.: 101st General Meeting of the American Society for Microbiology Orlando, FL, USA May 20-24, 2001
ISSN: 1060-2011.

DOCUMENT TYPE: Conference
LANGUAGE: English

AB **Chlamydia** is one of the most common sexually transmitted diseases. It affects 162 million people, with 90 million new infections occurring annually (WHO, 1996). Limiting to the timely detection of exposure is that *C. trachomatis* (CT) infections can be asymptomatic for an extended period of time and typically, worse pathology has been associated with prolonged infection. Sequelae to **chlamydial** infection are attributed to previous infection and thought to be the result of the host inflammatory response. Standard treatment for **chlamydial** infection is with antibiotics. However, clearance of previous infection following antibiotic treatment does not confer complete immunity to re-infection. Therefore, current efforts are directed towards the development of an effective vaccine. While it is apparent that most infected individuals mount both humoral and cell mediated immune responses, it is not clear how much each contribute to clearance of

infection and development of protective immunity. Thus a two-pronged approach was taken to identify potential **antigens** as possible vaccine candidates. A randomly sheared genomic CT (LGVII serovar) expression library was screened with pooled sera from five CT infected individuals using a secondary antibody to human IgG,A,M. Strongly immunoreactive clones were arrayed on a 96-well microtiter plate and evaluated on CD4+ T cell lines generated from CT infected individuals. By this method we identified several distinct serological clones, of which some were shown to be positive for proliferation and production of IFNgamma. Consequently, we have identified potential vaccine targets that elicit both an antibody as well as a T cell response. The full-length sequences of these clones have been prioritized for subsequent evaluation in animal models of **Chlamydia**.

L20 ANSWER 18 OF 46 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2001:278549 BIOSIS

DOCUMENT NUMBER: PREV200100278549

TITLE: Novel use of T cell hybridomas to assess the murine response to **Chlamydia trachomatis**.

AUTHOR(S): Adams, Valerie H. (1); Shastri, Nilabh; Rank, Roger; Kraig, Ellen (1)

CORPORATE SOURCE: (1) University of Texas Health Science Center San Antonio, 7703 Floyd Curl Drive, San Antonio, TX, 78229 USA

SOURCE: FASEB Journal, (March 7, 2001) Vol. 15, No. 4, pp. A307. print.

Meeting Info.: Annual Meeting of the Federation of American Societies for Experimental Biology on Experimental Biology 2001 Orlando, Florida, USA March 31-April 04, 2001

ISSN: 0892-6638.

DOCUMENT TYPE: Conference

LANGUAGE: English

SUMMARY LANGUAGE: English

AB **Chlamydia trachomatis** is a major cause of sexually transmitted disease with 4 million cases reported in the US each year. It has been suggested that the T cell response to some **chlamydial antigens** contribute directly to disease etiology. Thus it is critical to assess the nature and antigenic specificity of the T cell response upon genital tract exposure to **Chlamydia**. The murine model for genital chlamydial infection closely recapitulates the infection in women and leads to an activation of both CD4+ and CD8+ T cells. The genus **Chlamydia trachomatis** is currently subdivided into 18 serovars; therefore, vaginal inoculation of BALB/C mice with viable **Chlamydia** elementary bodies from three different live serovars, MoPn (mouse pneumonitis), human serovar E, and human serovar H, will allow us to detect genus as well as serovar specific antigens. Seven days after inoculation, iliac lymph nodes were harvested, T cells were enriched in vitro, and the T cells were then immortalized by fusion to either BWZ.36 or BWZ.36 CD8. Initially, we identified 78 CD4+ T cell hybridomas from the BWZ.36 fusion that were **Chlamydia**- specific (50 for MoPn, 22 for Serovar E, and 6 for Serovar H). We are currently screening the 475 BWZ.36 CD8 hybridomas for chlamydial specificity. We are using a "T cell Western" approach to assess the approximate size of the protein recognized by each CD4+ T cell hybridoma. Some of these **T cell** hybridomas were **stimulated** by the SDS-PAGE gel fraction containing MOMP (Major Outer Membrane Protein) and this reactivity was confirmed using recombinant MOMP fragments. Further, our preliminary data suggest that these T cell hybridomas, derived from immunizations with different serovars, exhibit unique antigenic profiles that may be important for rational vaccine design.

L20 ANSWER 19 OF 46 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 2001164811 MEDLINE
DOCUMENT NUMBER: 21159880 PubMed ID: 11260325
TITLE: Immunological memory in B-cell-deficient mice conveys long-lasting protection against genital tract infection with Chlamydia trachomatis by rapid recruitment of T cells.
AUTHOR: Johansson M; Lycke N
CORPORATE SOURCE: Department of Medical Microbiology and Immunology, University of Goteborg, Goteborg, Sweden.
CONTRACT NUMBER: R01 AI40701 (NIAID)
SOURCE: IMMUNOLOGY, (2001 Feb) 102 (2) 199-208.
Journal code: 0374672. ISSN: 0019-2805.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200104
ENTRY DATE: Entered STN: 20010410
Last Updated on STN: 20010410
Entered Medline: 20010405

AB The role of antibodies and antigen deposition for the development of immunological memory has been incompletely investigated. We addressed whether long-term protection and T-cell memory can be stimulated against a genital tract infection with human Chlamydia trachomatis serovar D in B-cell-deficient (muMT) mice. At 6 months following a primary infection with C. trachomatis, both muMT and wild-type (WT) mice exhibited strong and comparable protection against reinfection. Evidence of long-lasting CD4+ T-cell memory was found in both muMT and WT mice, typified by comparable delayed-type hypersensitivity (DTH) reactions against chlamydial antigens. No bacterial or chlamydial DNA was found in the genital tract of muMT memory mice, suggesting that immunological memory was maintained in the absence of antigen. Whereas few T cells were present in the genital tract of memory mice, rapid recruitment of CD4+, and some CD8+, T cells into the genital tract tissue was observed after challenge with live bacteria. Accumulation of T cells in the genital tract was preceded by a short transient infection of similar magnitude in both muMT and WT memory mice, arguing against a long-term protective role of local antibodies. The rapid recruitment of CD4+ T cells into the genital tract was associated with a transient detection of interferon-gamma (IFN-gamma) mRNA in the genital tract in chlamydia-immune memory mice, which was not found in naive, challenged mice. Thus, long-term protection in the genital tract against C. trachomatis infection is conveyed by IFN-gamma-producing CD4+ memory T cells, which appear to be maintained in the absence of antibodies and local antigen deposition.

L20 ANSWER 20 OF 46 HCPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:402017 HCPLUS
DOCUMENT NUMBER: 133:54574
TITLE: Recombinant vectors expressing multiple costimulatory molecules, host cell infection, and uses in immunogenic applications
INVENTOR(S): Schлом, Jeffrey; Hodge, James; Panicali, Dennis
PATENT ASSIGNEE(S): United States Dept. of Health and Human Services, USA; Therion Biologics Corporation
SOURCE: PCT Int. Appl., 188 pp.
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000034494	A1	20000615	WO 1999-US26866	19991112
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1137792	A1	20011004	EP 1999-958951	19991112
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002531133	T2	20020924	JP 2000-586927	19991112
PRIORITY APPLN. INFO.:			US 1998-111582P	P 19981209
			WO 1999-US26866	W 19991112

AB The present invention provides recombinant vectors encoding and expressing at least three or more costimulatory mols and host cells infected by the vector. The recombinant vector may addnl. contain a gene encoding one or more target antigens or immunol. epitope as well as cytokine, chemokine, or Flt-3L. A method of making a recombinant poxvirus, of enhancing an immune response of an individual by administering a recombinant vector, and of treating or preventing a disease by activating a T lymphocyte, are also presented. Further describes are a method of making a progenitor dendritic cell or dendritic cell, of assessing the efficacy of a vaccine against a target antigen, and of screening for novel immunogenic peptides. The synergistic effect of these costimulatory mols. on the enhanced activation of T cells was demonstrated. The degree of T-cell activation using recombinant vectors contg. genes encoding three costimulatory mols. was far greater than the sum of recombinant vector constructs contg. one costimulatory mol. and greater than the use of two costimulatory mols. Results employing the triple costimulatory vectors were most dramatic under conditions of either low levels of first signal or low **stimulator to T-cell ratios**. This phenomenon was obsd. with both isolated CD4+ and CD8+ T cells. The recombinant vectors of the present invention are useful as immunogenes and vaccines against cancer and pathogenic micro-organisms, and in providing host cells, including dendritic cells and splenocytes with enhanced antigen-presenting functions.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 21 OF 46 HCPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2000:402007 HCPLUS
 DOCUMENT NUMBER: 133:53686
 TITLE: **Chlamydial antigens and genomic DNA sequences for treatment and diagnosis of chlamydial infection**
 INVENTOR(S): **Probst, Peter; Bhatia, Ajay; Skeiky, Yasir A. W.; Fling, Steven P.; Jen, Shyian; Stromberg, Erica Jean**
 PATENT ASSIGNEE(S): Corixa Corporation, USA
 SOURCE: PCT Int. Appl., 256 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000034483	A2	20000615	WO 1999-US29012	19991208
WO 2000034483	A3	20011101		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6166177	A	20001226	US 1998-208277	19981208
US 6447779	B1	20020910	US 1999-288594	19990408
EP 1144642	A2	20011017	EP 1999-963037	19991208
EP 1144642	A3	20020605		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 9916020	A	20020122	BR 1999-16020	19991208
JP 2002531129	T2	20020924	JP 2000-586916	19991208
NO 2001002812	A	20010802	NO 2001-2812	20010607
PRIORITY APPLN. INFO.:			US 1998-208277	A 19981208
			US 1999-288594	A 19990408
			US 1999-410568	A 19991001
			US 1999-426571	A 19991022
			WO 1999-US29012	W 19991208

AB Compds. and methods for the diagnosis and treatment of **Chlamydial** infection are disclosed. The compds. provided include polypeptides that contain at least one **antigenic** portion of a **Chlamydia** **antigen** and DNA sequences encoding such polypeptides. **Chlamydia antigens** were isolated by expression cloning of a genomic DNA library of *C. trachomatis* LGV II, and shown to induce T cell proliferation and interferon-.beta. prodn. Immune responses of human PBMC and T cell lines are generated against the **Chlamydia** **antigens**. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of **Chlamydial** infection in patients and in biol. samples.

L20 ANSWER 22 OF 46 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 ACCESSION NUMBER: 2001:292665 BIOSIS
 DOCUMENT NUMBER: PREV200100292665
 TITLE: Compounds and methods for the treatment and diagnosis of **chlamydial** infection.
 AUTHOR(S): **Probst, Peter (1); Bhatia, Ajay;**
 Skeiky, Yasir A. W.
 CORPORATE SOURCE: (1) Seattle, WA USA
 ASSIGNEE: Corixa Corporation
 PATENT INFORMATION: US 6166177 December 26, 2000
 SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Dec. 26, 2000) Vol. 1241, No. 4, pp. No

Pagination. e-file.

ISSN: 0098-1133.

DOCUMENT TYPE: Patent
LANGUAGE: English

AB Compounds and methods for the diagnosis and treatment of **Chlamydial** infection are disclosed. The compounds provided include polypeptides that contain at least one **antigenic** portion of a **Chlamydial antigen** and DNA sequences encoding such polypeptides. Pharmaceutical compositions and vaccines comprising such polypeptides or DNA sequences are also provided, together with antibodies directed against such polypeptides. Diagnostic kits containing such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of **Chlamydial** infection in patients and in biological samples.

L20 ANSWER 23 OF 46 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 2001079867 MEDLINE
DOCUMENT NUMBER: 21017453 PubMed ID: 11145043
TITLE: Analysis of the antigen-specific T cell response in reactive arthritis by flow cytometry.
AUTHOR: Thiel A; Wu P; Lauster R; Braun J; Radbruch A; Sieper J
CORPORATE SOURCE: Benjamin Franklin University Hospital, and German Rheumatology Research Center, Berlin.
SOURCE: ARTHRITIS AND RHEUMATISM, (2000 Dec) 43 (12) 2834-42.
Journal code: 0370605. ISSN: 0004-3591.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200101
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010111

AB OBJECTIVE: In reactive arthritis (ReA) a bacteria-specific T cell response to the triggering microbe is detected in synovial fluid (SF), and an impaired Th1 cytokine response has been described. The recent identification of immunodominant bacterial proteins/peptides and new technologies make a more detailed analysis of the immune response possible. The aim of the present study was to use these new techniques to determine the antigen-specific T cell frequency and the cytokine secretion pattern on stimulation with bacteria-derived recombinant proteins in the peripheral blood (PB) and SF from patients with ReA. METHODS: In 3 patients with Chlamydia-induced ReA and 2 patients with Yersinia-induced ReA, the SF T cell response was investigated after stimulation with the Chlamydia-derived proteins major outer membrane protein (MOMP) and heat-shock protein 60 (Hsp60) and the Yersinia-derived proteins 19-kd protein and Hsp60. In 3 of these patients, the PB T cell response was investigated in parallel. T cells were stimulated in whole blood or whole SF with antigen plus anti-CD28 for 6 hours, brefeldin A was added after 2 hours, and cells were fixed and stained with antibodies against the surface markers CD4 and CD69 and against the cytokines interferon-gamma (IFNgamma), tumor necrosis factor alpha, interleukin-10 (IL-10), and IL-4. Positive cells were quantified by flow cytometry. RESULTS: In the 3 patients with Chlamydia-induced ReA, the antigen-specific T cell frequency (percentage of IFNgamma CD69 double-positive CD4+ T cells) in response to MOMP (mean +/- SD 1.2 +/- 1.38%) and to Hsp60 (1.21 +/- 1.45%) in SF was about the same. In the 2 patients with Yersinia-induced ReA, the mean +/- SD frequency was 0.66 +/- 0.36% in

response to the Hsp60 and 03% +/- 0.22 in response to the 19-kd protein. In the 3 patients whose PB was evaluated, the corresponding T cell response was > or =10 times lower. In 2 patients with **Chlamydia**-induced ReA, antigen-specific IL-10-positive CD4+ T cells were detected in 0.10-0.23% of the CD4+ T cell subpopulation. CONCLUSION: The frequency of antigen-specific T cells to **Chlamydia**- and **Yersinia**-derived antigens in the SF of ReA patients is between 1:200 and 1:50. Both the chlamydial Hsp60 and MOMP are dominant T cell antigens in **Chlamydia**-induced ReA. In patients with **Chlamydia**-induced ReA, we detected antigen-specific IL-10 secretion, which might mediate an inhibition of effective bacterial clearance.

L20 ANSWER 24 OF 46 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 2000288051 MEDLINE
DOCUMENT NUMBER: 20288051 PubMed ID: 10829242
TITLE: Immune responses to **Chlamydia** antigens in atherosclerosis.
AUTHOR: Gaston J S; Curry A J; Portig I; Goodall J C; Kirkpatrick P J
CORPORATE SOURCE: Department of Medicine, University of Cambridge, UK..
jshg2@medsch.cam.ac.uk
SOURCE: HERZ, (2000 Mar) 25 (2) 73-8.
Journal code: 7801231. ISSN: 0340-9937.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200006
ENTRY DATE: Entered STN: 20000706
Last Updated on STN: 20000706
Entered Medline: 20000623

AB Aim of this study was to isolate T lymphocytes from atherosomatous plaques and to determine they respond to **Chlamydia** antigens. Atherosomatous plaques from carotid endarterectomy patients, were cultured in vitro with the T cell growth factor, IL-2. This rarely allowed outgrowth of T cell lines. However, when combined with a mitogenic or antigenic stimulus to T cells, T cell lines were obtained from most patients, and from approximately 30% of replicate plaque tissue fragments. **Chlamydia** organisms were as effective in allowing the establishment of T cell lines as other recall antigens. T cell lines were tested for their ability to recognize antigens presented by autologous macrophages. Some lines responded to **Chlamydia** organisms, and also to the recombinant **Chlamydia** proteins hsp60 and OMP2. However, other lines recognized recall antigens. These results indicate that the atherosomatous plaque contains memory T lymphocytes, and amongst the antigens they recognize are **Chlamydia** proteins. **Stimulation of T cells** was required to allow outgrowth in vitro, suggesting that the T cells were not in an activated state in vivo. However, since **Chlamydia pneumoniae** is present in the atherosomatous plaque, activation of **Chlamydia**-reactive T cells by local antigen is a potential pro-inflammatory mechanism which could contribute to the pathogenesis of atherosclerosis.

L20 ANSWER 25 OF 46 HCPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:672599 HCPLUS
DOCUMENT NUMBER: 131:298657
TITLE: Vaccine compositions comprising CD-1 antigens and T-cell stimulating

INVENTOR(S): compound and methods of use thereof
 Porcelli, Steven A.; Brenner, Michael B.; Dascher,
 Christopher C.; Hiromatsu, Kenji
 PATENT ASSIGNEE(S): Brigham Women's Hospital, Inc., USA
 SOURCE: PCT Int. Appl., 49 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9952547	A1	19991021	WO 1999-US8112	19990413
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2323733	AA	19991021	CA 1999-2323733	19990413
AU 9935588	A1	19991101	AU 1999-35588	19990413
EP 1071452	A1	20010131	EP 1999-917473	19990413
R: AT, BE, DE, ES, FR, GB, IT, SE, IE, FI				
PRIORITY APPLN. INFO.:			US 1998-81638P	P 19980413
			WO 1999-US8112	W 19990413

AB The present invention relates to immunogenic or vaccine compns. comprising a CD1 or lipid antigen and a **T-cell stimulating** compd. (e.g., an adjuvant). The lipid antigen is selected from glycolipid, phospholipid, triglyceride, glycosylphosphatidylinositol, mycolic acid, glucose monomycolate, lipoarabinomannan, lipo-oligosaccharide, phosphatidylinositolmannoside, autoantigen, and tumor-assocd. antigen. The immune adjuvant is selected from mineral salt, (in)complete Freund's adjuvant, *Bacillus Calmette-Guerin*, block polymer, cholera toxin, cytokine, CPG motif-contg. adjuvant, oil/water emulsion, MF-59, LeIF, liposome, ISCOM, monophosphoryl lipid A, biodegradable microsphere, muramyl dipeptide, polyphosphozine and saponin. The vaccine compns. are useful for bacterial infection, parasitic infection, immunol. disorders, autoimmune disease, and cancer, e.g. malaria, leprosy, tuberculosis, streptococcosis, staphylococcosis, pneumonia, influenza, chlamydiasis, trypanosomiasis or AIDS.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 26 OF 46 HCPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1999:336044 HCPLUS
 DOCUMENT NUMBER: 131:156665
 TITLE: Immunization with a peptide corresponding to chlamydial heat shock protein 60 increases the humoral immune response in C3H mice to a peptide representing variable domain 4 of the major outer membrane protein of *Chlamydia trachomatis*
 AUTHOR(S): Motin, Vladimir L.; De La Maza, Luis M.; Peterson, Ellena M.
 CORPORATE SOURCE: Department of Pathology, University of California-Irvine, Irvine, CA, 92697-4800, USA

SOURCE: Clinical and Diagnostic Laboratory Immunology (1999),
6(3), 356-363

CODEN: CDIMEN; ISSN: 1071-412X

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB C3H (H-2k) mice are susceptible to a vaginal challenge with human strains of Chlamydia trachomatis and thus are a useful strain for testing potential Chlamydia vaccine candidates. However, C3H mice are fairly poor responders in terms of the level of antibody resulting from immunization with potential protective peptides representing variable domains (VDs) of the major outer membrane protein (MOMP). C57BL/6 (H-2b) mice, are moderately resistant to a vaginal challenge but are good responders to the chlamydial MOMP VDs. Peptides representing universal T-cell helper epitopes were employed to det. whether the antibody response to a peptide representing VD4 of the MOMP, which has been shown to contain neutralizing epitopes, could be enhanced in C3H and C57 mice. Universal T-cell helper peptides from tetanus toxin, the pre-S2 region of hepatitis B virus, and the mouse heat shock protein 60, as well as the corresponding segment of the Chlamydia heat shock protein 60 (hspct), were coadministered with the VD4 peptide. Peptides were coencapsulated in liposomes contg. the adjuvant monophosphoryl lipid A and administered by using a combination of mucosal and i.m. injection. The only T-cell helper peptide that improved the immune response as judged by antibody level, in vitro neutralization assays, and T-cell proliferation was hspct. The response in the C57BL/6 strain was not significantly enhanced with hspct over levels achieved with VD4 alone; however, in C3H mice the levels of serum antibody to C. trachomatis increased to that seen in C57 mice. However, the mol. specificity and Ig subclass distribution differed from those of the C57 response, and the neutralizing titers and T-cell proliferation responses were lower. In both strains of mice, titers of vaginal antibody to C. trachomatis were low. In summary, of the T-helper peptides used, only hspct significantly enhanced the immune response of C3H mice to the VD4 peptide, but it had only a modest effect on the immune response of C57 mice.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 27 OF 46 HCPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:514879 HCPLUS

DOCUMENT NUMBER: 129:229386

TITLE: Protection against ascending infection of the genital tract by Chlamydia trachomatis is associated with recruitment of major histocompatibility complex class II antigen-presenting cells into uterine tissue

AUTHOR(S): Stagg, A..J.; Tuffrey, M.; Woods, C.; Wunderink, E.; Knight, S. C.

CORPORATE SOURCE: Antigen Presentation Research Group, Imperial College School of Medicine at Northwick Park Institute for Medical Research, Middlesex, HA1 3UJ, UK

SOURCE: Infection and Immunity (1998), 66(8), 3535-3544

CODEN: INFIBR; ISSN: 0019-9567

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A mouse model of ascending infection following intravaginal inoculation with a strain of Chlamydia trachomatis isolated from humans has been used to identify immune mechanisms assocd. with protection against genital infection. BALB/c and C3H mice differed in their susceptibilities to

infection and inflammatory disease. In both mouse strains, ascension of the organism and recruitment of bone marrow-derived mononuclear leukocytes were evident in uterine tissue 1 wk postinfection. By 3 wk the organism had been cleared and inflammation had been resolved in the BALB/c mice, but both persisted in the C3H animals. In athymic nude BALB/c mice both the organism and inflammation persisted, indicating the influence of the hosts' immune response on the outcome of infection. Both BALB/c and C3H mice had a Th1 response in draining lymph nodes, with predominant prodn. of gamma interferon and tumor necrosis factor alpha, low levels of interleukin-10, and no detectable levels of interleukin-4. However, the compn. of the early uterine infiltrate differed in these two mouse strains. Cell surface labeling and anal. of light scatter properties by flow cytometry identified a population of large, CD45⁺ major histocompatibility complex class II mononuclear cells, which were a prominent feature of the infiltrates in BALB/c mice but were present in significantly lower nos. in C3H mice. These cells expressed the costimulatory mols. CD86 and CD40 and **stimulated** allogeneic T cells, suggesting that these mononuclear cells are a population of antigen-presenting cells and that they may play a role in clearing antigen and protecting against inflammatory disease in BALB/c mice. An addnl. level of immunol. control may thus exist in genital chlamydial infection.

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 28 OF 46 MEDLINE DUPLICATE 10
 ACCESSION NUMBER: 1998230474 MEDLINE
 DOCUMENT NUMBER: 98230474 PubMed ID: 9570547
 TITLE: Internalization of Chlamydia by dendritic cells and stimulation of Chlamydia-specific T cells.
 AUTHOR: Ojcius D M; Bravo de Alba Y; Kanellopoulos J M; Hawkins R A; Kelly K A; Rank R G; Dautry-Varsat A
 CORPORATE SOURCE: Unite de Biologie des Interactions Cellulaires, CNRS 1960, Institut Pasteur, Paris, France.. ojcius@pasteur.fr
 CONTRACT NUMBER: AI26328 (NIAID)
 SOURCE: JOURNAL OF IMMUNOLOGY, (1998 Feb 1) 160 (3) 1297-303.
 Journal code: 2985117R. ISSN: 0022-1767.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
 ENTRY MONTH: 199805
 ENTRY DATE: Entered STN: 19980520
 Last Updated on STN: 19980520
 Entered Medline: 19980514
 AB Chlamydia species are the causative agents of trachoma, various forms of pneumonia, and the most common sexually transmitted diseases. Although the infection cycle has been extensively characterized in epithelial cells, where the Chlamydia entry-vacuoles avoid fusion with host-cell lysosomes, the cellular immune response has received less attention. Moreover, despite the abundant presence of dendritic cells (DC) in the sites of infection, the interaction between Chlamydia and DC has never been studied. We observe that DC kill Chlamydia trachomatis and Chlamydia psittaci. The chlamydiae are internalized by the DC in a nonspecific manner through macropinocytosis, and the macropinosomes fuse subsequently with DC lysosomes expressing MHC class II molecules. The interaction induces maturation of the DC, since presentation of an exogenous Ag is severely inhibited after a 1-day incubation, although chlamydial Ags are

still presented and recognized by Chlamydia-specific CD4+ T cells. Thus, DC most likely play a role in initiating the T cell response *in vivo* and could potentially be used in adoptive transfer therapies to vaccinate against Chlamydia.

L20 ANSWER 29 OF 46 MEDLINE DUPLICATE 11

ACCESSION NUMBER: 97297926 MEDLINE

DOCUMENT NUMBER: 97297926 PubMed ID: 9153558

TITLE: Recognition of chlamydial antigen by HLA-B27-restricted cytotoxic T cells in HLA-B*2705 transgenic CBA (H-2k) mice.

AUTHOR: Kuon W; Lauster R; Bottcher U; Koroknay A; Ulbrecht M; Hartmann M; Grolms M; Ugrinovic S; Braun J; Weiss E H; Sieper J

CORPORATE SOURCE: Universitätsklinikum Benjamin Franklin, and Deutsches Rheuma-Forschungszentrum, Berlin, Germany.

SOURCE: ARTHRITIS AND RHEUMATISM, (1997 May) 40 (5) 945-54. Journal code: 0370605. ISSN: 0004-3591.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals; AIDS

ENTRY MONTH: 199705

ENTRY DATE: Entered STN: 19970609
Last Updated on STN: 19980206
Entered Medline: 19970529

AB OBJECTIVE: The association of reactive arthritis (ReA) with HLA-B27 and the presence of bacterial antigen in joints with ReA suggest that bacterial peptides might be presented by the HLA-B27 molecule and thus stimulate CD8 T cells. This study was performed to investigate the B27-restricted cytotoxic T lymphocyte (CTL) response to Chlamydia trachomatis, using the model of HLA-B27 transgenic mice. METHODS: CBA (H-2k) mice homozygous for HLA-B*2705 and human beta2-microglobulin expression were immunized with C trachomatis or with the chlamydial 57-kd heat-shock protein (hsp57) coupled to latex beads. Cytotoxicity of lymphocytes from *in vivo*-primed transgenic mice was tested against C trachomatis-infected targets. Blocking experiments were performed with monoclonal antibodies (MAb) against class I major histocompatibility complex molecules. RESULTS: A Chlamydia-specific lysis of both B27-transfected and nontransfected target cells was observed. This response could be inhibited by anti-B27 and anti-H2 MAb. CTL from mice immunized with hsp57 were not able to lyse Chlamydia-infected target cells, and Chlamydia-specific CTL could not destroy targets loaded with hsp57. CONCLUSION: These results suggest the existence of at least 2 CTL populations in this mouse model: one recognizing peptide of bacteria-infected cells restricted by HLA-B*2705 and the other recognizing peptide of bacteria-infected cells restricted by the murine H-2K^k molecule. It does not appear that hsp57 is a major target for the CD8 T cell response directed against Chlamydia. This animal model opens the way for identifying bacterial epitopes presented by HLA-B27, and might thus help to clarify the pathogenesis of B27-associated diseases.

L20 ANSWER 30 OF 46 MEDLINE DUPLICATE 12

ACCESSION NUMBER: 97259305 MEDLINE

DOCUMENT NUMBER: 97259305 PubMed ID: 9105425

TITLE: Characterization of Chlamydia pneumoniae antigens using human T cell clones.

AUTHOR: Halme S; Saikku P; Surcel H M

CORPORATE SOURCE: National Public Health Institute, Oulu, Finland.

SOURCE: SCANDINAVIAN JOURNAL OF IMMUNOLOGY, (1997 Apr) 45 (4)
378-84.
PUB. COUNTRY: Journal code: 0323767. ISSN: 0300-9475.
ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; AIDS
ENTRY MONTH: 199705
ENTRY DATE: Entered STN: 19970514
Last Updated on STN: 19970514
Entered Medline: 19970508

AB Chlamydia pneumoniae infection is followed by the development of antigen-specific cell-mediated immunity (CMI), which is detectable as a positive lymphocyte proliferation (LP) response to *C. pneumoniae* elementary body (EB) antigen, but the proteins inducing the T cell activation are not known. In the present work the authors used human T lymphocyte clones (TLC) raised against *C. pneumoniae* EB antigen to characterize *C. pneumoniae* proteins as **T cell-stimulating** antigens. A total of 55% of the TLC established recognized antigenic determinants only on *C. pneumoniae* species, while the rest of the TLC proliferated to both *C. pneumoniae* and *C. trachomatis* EB. The antigen specificity of the TLC was further analysed by stimulating with SDS-PAGE fractionated *C. pneumoniae* EB proteins. **Chlamydia pneumoniae** species-specific **antigens** were found in the molecular weight ranges 92-98, 51-55, 43-46 and 31.5-33 kDa and genus-specific antigens in the ranges 12, 26 and 65-70 kDa. The 46.5-49.5 and 55-61 kDa regions contained both species-specific and genus-specific antigens. Human leucocyte antigen (HLA) restriction analysis for the TLC isolated from an HLA DR4, 15(2) heterozygous person showed the majority (81.3%) to be restricted to the HLA DR4 molecule, the rest being DR15(2)-restricted. An interesting preliminary finding was that the expression of interferon-gamma (IFN-gamma) mRNA by the TLC was predominantly associated with antigen recognition in the context of the HLA DR4 molecule, while interleukin-4 (IL-4) production was linked to antigen recognition in the context of the HLA DR15(2) molecule.

L20 ANSWER 31 OF 46 MEDLINE DUPLICATE 13
ACCESSION NUMBER: 95172745 . MEDLINE
DOCUMENT NUMBER: 95172745 PubMed ID: 7868267
TITLE: Kinetics of **chlamydial antigen**
processing and presentation to T cells by
paraformaldehyde-fixed murine bone marrow-derived
macrophages.
AUTHOR: Su H; Caldwell H D
CORPORATE SOURCE: Immunology Section, Rocky Mountain Laboratories, National
Institute of Allergy and Infectious Diseases, Hamilton,
Montana 59840-2999.
SOURCE: INFECTION AND IMMUNITY, (1995 Mar) 63 (3) 946-53.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199503
ENTRY DATE: Entered STN: 19950407
Last Updated on STN: 19950407
Entered Medline: 19950330

AB Macrophages are potential candidates for **antigen** presentation to **chlamydial-specific** CD4+ T cells. We have studied the kinetics of

chlamydial antigen processing and presentation by using paraformaldehyde-fixed bone marrow-derived macrophages (BMDM) and splenic T cells isolated from chlamydia-infected mice. BMDM were inoculated with different multiplicities of heat-killed chlamydial elementary bodies, and at different times postinfection, the macrophages were fixed with paraformaldehyde and used as antigen-presenting cells in T-cell proliferation assays. T-cell proliferative responses were shown to be dependent on the chlamydial inoculum size, with a multiplicity of 10 chlamydiae per macrophage producing optimum T-cell proliferation. Temporal experiments showed that peak T-cell proliferative responses occurred between 4 and 12 h postinfection of chlamydiae by BMDM. T cells proliferated strongly to antigen when presented by H-2-matched BMDM but not when presented by H-2-disparate BMDM, demonstrating that T-cell recognition of processed chlamydial antigen was major histocompatibility complex restricted. BMDM inoculated with 10 chlamydiae per cell and fixed at 8 h postinoculation were shown to be as stimulatory to T cells as conventional splenic antigen-presenting cells. Because large numbers of BMDM can be propagated in vitro, and experimental conditions that provide optimum presentation of processed chlamydial antigen to chlamydia-specific CD4+ T cells can be defined, BMDM may be a potentially useful source for the isolation of naturally processed parasite antigen from major histocompatibility complex class II molecules.

L20 ANSWER 32 OF 46 MEDLINE DUPLICATE 14
 ACCESSION NUMBER: 95122182 MEDLINE
 DOCUMENT NUMBER: 95122182 PubMed ID: 7822016
 TITLE: Role of CD8 T cells in primary Chlamydia infection.
 AUTHOR: Magee D M; Williams D M; Smith J G; Bleicker C A; Grubbs B G; Schachter J; Rank R G
 CORPORATE SOURCE: Department of Research Immunology, Texas Center for Infectious Disease, San Antonio 78223.
 CONTRACT NUMBER: AI 22380 (NIAID)
 AI 26328 (NIAID)
 SOURCE: INFECTION AND IMMUNITY, (1995 Feb) 63 (2) 516-21.
 Journal code: 0246127. ISSN: 0019-9567.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals; AIDS
 ENTRY MONTH: 199502
 ENTRY DATE: Entered STN: 19950223
 Last Updated on STN: 19950223
 Entered Medline: 19950216
 AB The role of CD4 and CD8 T cells in primary Chlamydia trachomatis pneumonia was investigated by using in vivo depletion techniques to eliminate T-cell populations. Reduction of either CD4 T cells or CD8 T cells caused a significant increase in organism burden in the lungs, as measured by both quantitative culture and detection of chlamydial antigen on day 14 postinfection. Chlamydia-specific antibody levels in plasma or antigen-induced gamma interferon (IFN-gamma) production by spleen cells was dramatically reduced by depletion of CD4 cells. The reduction in IFN-gamma achieved by depletion of CD8 cells did not reach statistical significance. In the survival studies, depletion of CD4 cells led to a significant increase in mortality. Although there was a trend toward higher mortality, depletion of CD8 cells did not significantly increase mortality. The role of CD8 T cells in host defense was clarified in studies using beta 2-microglobulin-deficient (major histocompatibility

class I antigen-deficient, C1D) mice which are defective in CD8 T-cell function. In this model, a significant increase in organism burden was seen during infection in C1D mice compared with that C57BL/6 controls and a significant increase in mortality was observed as well. However, surviving C1D mice were able to clear the infection by day 34. C1D mice had increased numbers of CD4 T cells in both the spleen and the lungs during infection compared with those of C57BL/6 controls. IFN-gamma in C57BL/6 mice was produced by both CD4 and CD8 cells. Thus, there is a protective role for both CD4 and CD8 cells in host defense against Chlamydia infection, but the former appear to be dominant.

L20 ANSWER 33 OF 46 MEDLINE DUPLICATE 15
ACCESSION NUMBER: 95362309 MEDLINE
DOCUMENT NUMBER: 95362309 PubMed ID: 7543450
TITLE: A peptide of Chlamydia trachomatis shown to be a primary T-cell epitope in vitro induces cell-mediated immunity in vivo.
AUTHOR: Knight S C; Iqball S; Woods C; Stagg A; Ward M E; Tuffrey M
CORPORATE SOURCE: St. Mary's Hospital Medical School, Northwick Park Hospital, Harrow, UK.
SOURCE: IMMUNOLOGY, (1995 May) 85 (1) 8-15.
JOURNAL code: 0374672. ISSN: 0019-2805.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199509
ENTRY DATE: Entered STN: 19950921
Last Updated on STN: 19960129
Entered Medline: 19950911
AB Chlamydiae are a major cause of infertility and preventable blindness and there is currently no effective vaccine in humans or rodents against these organisms. We have previously shown that a peptide of 12 amino acids (termed TINKP) from a conserved region of the major outer membrane protein (MOMP) of Chlamydia trachomatis (C. trachomatis) is a primary T-cell epitope in humans. Here we showed that when dendritic cells (DC) from C3H or BALB/c mice were pulsed in vitro with the peptide they stimulated proliferation of syngeneic T cells in vitro indicating that the peptide is also a primary T-cell epitope in mice. Since the skin is a rich source of DC, we immunized mice from each strain with an intradermal injection of the peptide. Humoral and cell-mediated immunity to peptide, MOMP or whole elementary bodies (EB) of C. trachomatis (F/N11/GU) were assessed. No antibody response to TINKP was observed. However, immunized mice showed recall responses to all three chlamydial antigens. T-cell-mediated immunity in the absence of antibody was induced by a single injection of the peptide intradermally. C. trachomatis isolated from the human genital tract causes salpingitis in mice. Preliminary studies in susceptible C3H mice indicated that intradermal injection of peptide conferred some protection against the development of salpingitis. Thus, a primary T-cell epitope identified by in vitro stimulation using DC can also initiate cell-mediated immunity in vivo and this approach may be useful in the development of vaccines.
L20 ANSWER 34 OF 46 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:340887 HCAPLUS
DOCUMENT NUMBER: 122:131007
TITLE: Immunogenic LHRH peptide constructs and synthetic universal immune stimulators for vaccines

INVENTOR(S): Ladd, Anna E.; Wang, Chang Yi; Zamb, Timothy
 PATENT ASSIGNEE(S): USA
 SOURCE: PCT Int. Appl., 217 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9425060	A1	19941110	WO 1994-US4832	19940428
W: AU, CA, FI, JP, KR, NO, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2161445	AA	19941110	CA 1994-2161445	19940428
AU 9466702	A1	19941121	AU 1994-66702	19940428
AU 687805	B2	19980305		
EP 708656	A1	19960501	EP 1994-915447	19940428
EP 708656	B1	20020731		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 09503742	T2	19970415	JP 1994-524614	19940428
AT 221387	E	20020815	AT 1994-915447	19940428
US 5843446	A	19981201	US 1995-488351	19950607
FI 9505101	A	19951221	FI 1995-5101	19951026
NO 9504279	A	19951227	NO 1995-4279	19951026
US 5759551	A	19980602	US 1995-446692	19951226
PRIORITY APPLN. INFO.:			US 1993-57166	A 19930427
			US 1994-229275	A 19940414
			WO 1994-US4832	W 19940428
			US 1995-446692	A3 19950605
			US 1995-488351	A3 19950607

AB This invention relates to immunogenic LH releasing hormone (LHRH) peptides that lead to suppression of LHRH activity in males or females. When male rats are immunized with these peptides, serum testosterone drops and androgen-dependent organs atrophy significantly. These peptides are useful for inducing infertility and for treating prostatic hyperplasia, androgen-dependent carcinoma, prostatic carcinoma and testicular carcinoma in males. In females, the peptides are useful for treating endometriosis, benign uterine tumors, recurrent functional ovarian cysts and (severe) premenstrual syndrome as well as prevention or treatment of estrogen-dependent breast cancer. The subject peptides contain a helper T cell epitope and have LHRH at the C terminus. The helper T cell epitope aids in **stimulating** the immune response against LHRH. The peptides, optionally contain an invasin domain which acts as a general immune stimulator. In another aspect this invention relates to immunogenic synthetic peptides having an invasin domain, a helper T cell epitope and a peptide hapten and methods of using these peptides to treat disease or provide protective immunity. The peptide haptens of the invention include LHRH, amylin, gastrin, gastrin releasing peptide, IgE CH4 peptide, Chlamydia MOMP peptides, HIV V3 peptides and Plasmodium berghei.

L20 ANSWER 35 OF 46 MEDLINE DUPLICATE 16
 ACCESSION NUMBER: 94341861 MEDLINE
 DOCUMENT NUMBER: 94341861 PubMed ID: 8063377
 TITLE: Mice immunized with a chlamydial extract have no increase in early protective immunity despite increased inflammation following genital infection by the mouse pneumonitis agent of Chlamydia trachomatis.

AUTHOR: Blander S J; Amortegui A J
CORPORATE SOURCE: University of Pittsburgh Medical Center, Pennsylvania.
SOURCE: INFECTION AND IMMUNITY, (1994 Sep) 62 (9) 3617-24.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199409
ENTRY DATE: Entered STN: 19941005
Last Updated on STN: 19941005
Entered Medline: 19940921

AB We have determined that immunization with a detergent extract of the mouse pneumonitis agent of *Chlamydia trachomatis* fails to induce a protective inflammatory immune response following genital infection by *C. trachomatis*. We demonstrated that mice immunized with the detergent extract have increased cutaneous delayed-type hypersensitivity and **increased** splenic T-cell proliferation in response to the chlamydial extract. After genital infection by *C. trachomatis*, extract-sensitized mice had significantly increased genital inflammation ($P = 0.044$) compared with controls. The inflammation was characterized by significantly increased eosinophils in the genitalia ($P < 0.0005$) and increased genital edema ($P < 0.0005$). However, the increased genital inflammation of extract-sensitized mice provided no increase in protection against infection ($P = 0.92$).

L20 ANSWER 36 OF 46 MEDLINE DUPLICATE 17
ACCESSION NUMBER: 94011048 MEDLINE
DOCUMENT NUMBER: 94011048 PubMed ID: 7691730
TITLE: Identification of T-cell
stimulatory antigens of *Chlamydia*
trachomatis using synovial fluid-derived T-cell clones.
AUTHOR: Hassell A B; Reynolds D J; Deacon M; Gaston J S; Pearce J H
CORPORATE SOURCE: Department of Rheumatology, School of Biological Sciences,
University of Birmingham, U.K.
SOURCE: IMMUNOLOGY, (1993 Aug) 79 (4) 513-9.
Journal code: 0374672. ISSN: 0019-2805.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199311
ENTRY DATE: Entered STN: 19940117
Last Updated on STN: 19970203
Entered Medline: 19931112

AB *Chlamydia trachomatis* is a major cause of sexually transmitted disease, infertility and reactive arthritis in the Western world, and of trachoma in the developing world. There is evidence that the chronic inflammatory reaction seen in diseases associated with chlamydiae represents a delayed-type hypersensitivity response to **chlamydial antigens**. Little is known about which **chlamydial antigens** elicit T-cell responses yet such information could have important implications in terms of both immunopathological understanding of these diseases and immunoprophylaxis design. In this study, 61 chlamydia-specific T-cell clones have been produced from the synovial fluid of an individual with sexually acquired reactive arthritis (SARA). Ten clones have been characterized in detail and used to identify **T-cell stimulatory antigens of chlamydiae** by means of T-cell immunoblotting. Two distinct

antigenic fractions have been identified, one recognized by three of the clones (molecular weight 18,000), the other recognized by six of the clones (molecular weight 30,000). The fractions are distinct from the major outer membrane protein, the 57,000 MW stress protein and the 60,000 MW cysteine-rich membrane protein of chlamydiae. The major histocompatibility complex (MHC) restriction of the response to these antigens differed: clones recognizing the 18,000 MW antigen required antigen-presenting cells expressing DR1 subtype DRB1*0101 or DRB1*0102 which only differ at amino acids 85 and 86 on the DR beta-chain; by contrast clones recognizing the 30,000 MW antigen were presented to only by antigen-presenting cells from DRB1*0101 individuals, reflecting extreme sensitivity of these clones to the polymorphism at positions 85 and 86 on the DR beta-chain.

L20 ANSWER 37 OF 46 MEDLINE DUPLICATE 18
 ACCESSION NUMBER: 93285699 MEDLINE
 DOCUMENT NUMBER: 93285699 PubMed ID: 8099564
 TITLE: Primary human T-cell responses to the major outer membrane protein of *Chlamydia trachomatis*.
 AUTHOR: Stagg A J; Elsley W A; Pickett M A; Ward M E; Knight S C
 CORPORATE SOURCE: Antigen Presentation Research Group, Clinical Research Centre, Harrow, Middlesex, U.K.
 SOURCE: IMMUNOLOGY, (1993 May) 79 (1) 1-9.
 Journal code: 0374672. ISSN: 0019-2805.
 PUB. COUNTRY: ENGLAND: United Kingdom
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199307
 ENTRY DATE: Entered STN: 19930723
 Last Updated on STN: 19950206
 Entered Medline: 19930713

AB The major outer membrane protein (MOMP) of *Chlamydia trachomatis* is the main candidate **antigen** for a synthetic **vaccine** against **chlamydial** infection. Antibodies to surface-exposed epitopes on MOMP neutralize chlamydial infectivity but little is known about T-cell recognition of the molecule. We have measured primary human T-cell responses to recombinant fragments of MOMP as well as to the whole organism and synthetic MOMP peptides. Using antigen-pulsed low density cells (LDC) we were able to **stimulate** proliferative responses with **T cells** from most naive individuals. This response was antigen dose dependent and displayed an absolute requirement for dendritic cells in the antigen-presenting cell (APC) population. Several T-cell epitopes were identified in MOMP and one which **stimulated T cells** from 80% of donors was resolved as a 12 amino acid synthetic peptide. Dual cell surface labelling and cell cycle analysis by FACS revealed that both CD4+ and CD8+ **T cells** were **stimulated** in these cultures. The fact that we were able to obtain proliferative responses and interferon-gamma (IFN-gamma) production to MOMP using cells from cord bloods confirmed that these are genuine primary responses. These experiments have identified a region on MOMP, to which T cells from most humans make a primary response, which may be useful in a **chlamydial vaccine**. The approach is useful for vaccine development in general.

L20 ANSWER 38 OF 46 MEDLINE DUPLICATE 19
 ACCESSION NUMBER: 93014175 MEDLINE
 DOCUMENT NUMBER: 93014175 PubMed ID: 1398973
 TITLE: Identification of *Chlamydia trachomatis*

AUTHOR: **antigens** by use of murine T-cell lines.
Beatty P R; Stephens R S
CORPORATE SOURCE: Department of Biomedical and Environmental Health Sciences,
University of California, Berkeley 94720.
CONTRACT NUMBER: AI31499 (NIAID)
EY07757 (NEI)
SOURCE: INFECTION AND IMMUNITY, (1992 Nov) 60 (11) 4598-603.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199211
ENTRY DATE: Entered STN: 19930122
Last Updated on STN: 19930122
Entered Medline: 19921125

AB Chlamydia-specific short-term T-cell lines were used in conjunction with immunoblot techniques to examine Chlamydia trachomatis proteins for **T-cell-stimulatory** activity. This study was undertaken because of the known role of T cells in the resolution and pathogenesis of chlamydial infections. Therefore, determination of which **chlamydial** proteins are T-cell **antigens** and whether they evoke protective immunity or contribute to immunopathology is crucial. Immune lymph node cells were stimulated with whole chlamydial organism (elementary body) to derive predominantly CD4+ T-cell lines. Proteins from the elementary body and the outer membrane and cloned proteins were examined for antigenicity with these T-cell lines in a proliferation assay. Although a majority of the elementary body protein fractions were positive in this assay, only four of the outer membrane fractions were stimulatory. The cloned major outer membrane protein and outer membrane protein 2 were stimulatory in the assay and may account for the reactivity in three of the four positive outer membrane fractions. The C. trachomatis heat shock protein 60, examined because of its putative role in causing delayed-type hypersensitivity, was found to **stimulate** the CD4+ **T cells**. This approach with short-term T-cell lines with polyclonal reactivity was sensitive and specific in identifying **chlamydial** proteins as T-cell **antigens**.

L20 ANSWER 39 OF 46 MEDLINE DUPLICATE 20
ACCESSION NUMBER: 92175969 MEDLINE
DOCUMENT NUMBER: 92175969 PubMed ID: 1541537
TITLE: **Antigenic analysis of the chlamydial**
75-kilodalton protein.
AUTHOR: Zhong G; Brunham R C
CORPORATE SOURCE: Department of Medical Microbiology, University of Manitoba,
Winnipeg, Manitoba, Canada R3E 0W3.
SOURCE: INFECTION AND IMMUNITY, (1992 Mar) 60 (3) 1221-4.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199204
ENTRY DATE: Entered STN: 19920424
Last Updated on STN: 19920424
Entered Medline: 19920403

AB Both B- and T-cell **immunogenicity** of a **chlamydial** 75-kDa protein was analyzed by using 131 partially overlapped decapeptide homologs of the 75-kDa protein from Chlamydia trachomatis serovar L2. Six

rabbit antiserum specimens raised with serovars B, C, and L2 were used to assay the antibody reactivities of the decapeptides. Seventy-five of the 131 decapeptides were recognized by at least one antiserum specimen, and two peptides were found to be immunodominant and surface accessible on native organisms. The same set of decapeptides were cleaved from the pins and tested for their **T-cell-stimulating** activity in an *in vitro* proliferation assay. A single decapeptide was able to stimulate proliferation of **chlamydial antigen**-primed lymph node T cells from BALB/c mice.

L20 ANSWER 40 OF 46 HCPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1991:556690 HCPLUS

DOCUMENT NUMBER: 115:156690

TITLE: Production of colony-stimulating factors during pneumonia caused by *Chlamydia trachomatis*

AUTHOR(S): Magee, D. Mitchell; Williams, Dwight M.; Wing, Edward J.; Bleicker, Cheryl A.; Schachter, Julius

CORPORATE SOURCE: Health Sci. Cent., Univ. Texas, San Antonio, TX, 78284, USA

SOURCE: Infection and Immunity (1991), 59(7), 2370-5

CODEN: INFIBR; ISSN: 0019-9567

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The colony-stimulating factors (CSFs) are cytokines involved in the prodn., differentiation, and activation of host phagocytes. During murine infection with *C. trachomatis* (MoPn), plasma CSF levels increased in euthymic (nu/+) and athymic (nu/nu) BALB/c mice. Levels declined later in infection, with the nu/+ mice resolving the infection but the nu/nu mice succumbing by day 16. Either live or heat-killed *Chlamydia* organisms could induce CSF increases on day 7 postchallenge in nu/+ mice; however, by day 14, only mice challenged with live organisms maintained high plasma levels. CSFs were also produced by spleen cells of nu/+ and nu/nu mice in response to **Chlamydia antigen**. Spleen cell CSF prodn. was detectable by days 3-5 postinfection. In nu/+ mice, spleen cell CSF prodn. was elevated throughout the rest of the time course but in nu/nu mice fell significantly at day 14. Like the plasma CSF activity (CSA) prodn., spleen cell CSA prodn. on day 7 was seen in mice challenged with either live or heat-killed *Chlamydia* organisms, but on day 14 only nu/+ mice challenged with live organisms maintained significant CSA prodn. To further characterize the T-cell dependence of CSA prodn., spleen cells of nu/+ mice were depleted of T cells or T-cell subsets before producing supernatants. On day 14 postinfection, the CD4+ lymphocyte was the major producer of CSFs. Addnl., there were different types of CSFs secreted by nu/+ and nu/nu mice as detd. by the ability of spleen cell supernatants to support the granulocyte-macrophage CSF/interleukin 3-dependent cell line FDCP-1. Supernatants from nu/+ mice had 4-8-fold the level of FDCP-1 CSF activity of the supernatants from nu/nu mice. Thus, nu/+ mice were producing some CSFs by T-cell-dependent mechanisms. This is the first report of CSF prodn. *in vivo* during *Chlamydia* infection. Furthermore, the CSFs are produced by both T-cell-dependent and T-cell-independent mechanisms. The capacity of the CSFs to increase the prodn. and effector function of phagocytes may be important to host defenses.

L20 ANSWER 41 OF 46 MEDLINE

DUPLICATE 21

ACCESSION NUMBER: 91147235 MEDLINE

DOCUMENT NUMBER: 91147235 PubMed ID: 1705244

TITLE: Resolution of **chlamydial** genital infection with antigen-specific T-lymphocyte lines.

AUTHOR: Ramsey K H; Rank R G

CORPORATE SOURCE: Department of Microbiology and Immunology, University of Arkansas for Medical Sciences, Little Rock 72205.
CONTRACT NUMBER: AI26328 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (1991 Mar) 59 (3) 925-31.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199104
ENTRY DATE: Entered STN: 19910419
Last Updated on STN: 19970203
Entered Medline: 19910402

AB To determine cell-mediated immune mechanisms involved in the resolution of chlamydial genital infection of mice, we utilized an established murine model in which it has been demonstrated that resolution of infection occurs independently of the antibody response. Splenic T lymphocytes were obtained from mice that had previously been immunized with viable elementary bodies of the mouse pneumonitis agent (MoPn), a *Chlamydia trachomatis* biovar. Antigen-reactive T lymphocytes were maintained and expanded in vitro by frequent restimulation with UV light-inactivated MoPn in the presence of antigen-presenting cells and recombinant interleukin-2 (rIL-2). Flow cytometry indicated that this cell line was at least 92% positive for the pan-specific T-cell marker Thy1.2. Stimulation of the cells in the presence of syngeneic antigen-presenting cells plus MoPn antigen and in the absence of exogenous IL-2 induced the cells to produce IL-2 activity in culture supernatants. Following adoptive transfer, this T-lymphocyte line was effective in inducing resolution of an ongoing MoPn genital infection in congenitally athymic nude mice which otherwise maintain chronic unresolved infections. The line was less efficient in resolving the infection after longer periods in culture. An additional T-lymphocyte line was derived from the spleens of athymic mice that had received the first line and had resolved the infection. These T cells were also capable of inducing resolution of the infection. Lastly, this cell line was treated with specific antibody and complement to delete either CD4+ or CD8+ T lymphocytes in an attempt to enrich for T-cell subpopulations prior to transfer into infected athymic mice. The anti-CD4-treated line was essentially depleted of CD4 cells, while the anti-CD8-treated line was only partially enriched for CD4 cells, with a large proportion of CD8 cells still present. Nude mice that received either of the treated T-cell lines or the parental cell line were capable of resolving the infection, although the line with increased numbers of CD4 cells was more efficient than either the parental line or the CD8 line.

L20 ANSWER 42 OF 46 MEDLINE DUPLICATE 22
ACCESSION NUMBER: 92138808 MEDLINE
DOCUMENT NUMBER: 92138808 PubMed ID: 1779041
TITLE: Immune responses of the ovine lymph node to *Chlamydia psittaci*. A cellular study of popliteal efferent lymph.
AUTHOR: Huang H S; Buxton D; Burrells C; Anderson I E; Miller H R
CORPORATE SOURCE: Moredun Research Institute, Edinburgh, Scotland, U.K.
SOURCE: JOURNAL OF COMPARATIVE PATHOLOGY, (1991 Aug) 105 (2)
191-202.
Journal code: 0102444. ISSN: 0021-9975.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 199203
ENTRY DATE: Entered STN: 19920329
Last Updated on STN: 19920329
Entered Medline: 19920310
AB The popliteal efferent lymphatics were cannulated in sheep of two categories, seronegative or immune to Chlamydia psittaci. Following subcutaneous injection of live C. psittaci or control material into the draining area of the popliteal node, sequential samples of efferent lymph were collected and analysed. Both categories of sheep responded to C. psittaci with increased outputs of lymphocytes and blast cells. Numbers of blast cells rose both absolutely and as a proportion of the total. Plasmablasts increased in number only in seronegative sheep. Outputs of total T cells (CD5+), helper T cells (CD4+), cytotoxic/suppressor T cells (CD8+) and non-helper, non-suppressor T cells (T19) were maximal 4 and 7 days after challenge in immune and seronegative sheep, respectively. Proportionally, CD4+ T cells declined, CD8+ T cells increased and T19 cells were unaltered with time after infection. Chlamydial antigens could not be demonstrated in the cells of efferent lymph by an immunoperoxidase method. The results of this preliminary study show that both T and B cell responses are involved in immunity to C. psittaci.

L20 ANSWER 43 OF 46 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1992:18634 BIOSIS
DOCUMENT NUMBER: BR42:6334
TITLE: IDENTIFICATION OF T CELL
STIMULATORY ANTIGENS OF CHLAMYDIA
-TRACHOMATIS CT USING SYNOVIAL FLUID SF DERIVED T CELL CLONES.
AUTHOR(S): HASSELL A B; REYNOLDS D; BAILEY L; PEARCE J; BACON P A;
GASTON J S H
CORPORATE SOURCE: DEP. RHEUMATOL., UNIV. BIRMINGHAM, B152TT, UK.
SOURCE: 55TH ANNUAL MEETING OF THE AMERICAN COLLEGE OF
RHEUMATOLOGY, BOSTON, MASSACHUSETTS, USA, NOVEMBER 17-21,
1991. ARTHRITIS RHEUM, (1991) 34 (9 SUPPL), S62.
CODEN: ARHEAW. ISSN: 0004-3591.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD
LANGUAGE: English

L20 ANSWER 44 OF 46 MEDLINE DUPLICATE 23
ACCESSION NUMBER: 90293681 MEDLINE
DOCUMENT NUMBER: 90293681 PubMed ID: 1694217
TITLE: Identification and characterization of T helper cell epitopes of the major outer membrane protein of Chlamydia trachomatis.
AUTHOR: Su H; Morrison R P; Watkins N G; Caldwell H D
CORPORATE SOURCE: Laboratory of Intracellular Parasites, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Hamilton, Montana 59840.
SOURCE: JOURNAL OF EXPERIMENTAL MEDICINE, (1990 Jul 1) 172 (1) 203-12.
Journal code: 2985109R. ISSN: 0022-1007.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199008

ENTRY DATE: Entered STN: 19900907
Last Updated on STN: 19960129
Entered Medline: 19900801

AB Chlamydia trachomatis serovars A, B, and C are the causative agents of trachoma, the world's leading cause of preventable blindness. Immunoprophylaxis is a possible approach to control trachoma. The chlamydial major outer membrane protein (MOMP) is thought to play an important role in the development of protective immunity against chlamydial infection, and is therefore considered to be a promising candidate antigen in the development of a trachoma vaccine. Much effort has been focused on the molecular characterization of B cell sites of the MOMP that elicit neutralizing antibodies. Neutralizing sites have been identified as linear epitopes that reside within variable domains (VDs) of the protein whose primary sequences vary among different serovars. No information exists on MOMP T helper (Th) cell antigenic determinants, which are likely critical components for the development of a successful **chlamydial vaccine**. We used overlapping synthetic peptides (25 mers) representing the entire primary sequence of serovar A MOMP in T cell proliferation assays to identify T cell antigenic determinants of this molecule. Eight synthetic peptides (A-2, A-3, A-7, A-8, A-11, A-22, A-23, and A-24) **stimulated** proliferative responses of splenic T cells isolated from MOMP-immunized A/J mice. To ascertain if these peptides functioned as Th cell antigens, we determined their ability to prime A/J mice *in vivo* to produce an anamnestic IgG response specific to the MOMP. Mice primed with synthetic peptides A-8 (106-130) or A-23 (331-355) produced IgG antibodies reactive with the native MOMP and with the synthetic peptides corresponding to surface-accessible serovar-specific epitopes located in VD I and serogroup-specific epitopes located in VD IV of the protein. We synthesized the A-8 and A-23 peptides with the VD I sequence as colinear chimeric peptides. Immunization of mice with the T/B cell peptides produced high titered antibodies against the VD I sequence, and these antibodies reacted with the native MOMP and intact chlamydiae. The MOMP sequences containing these Th cell epitopes are conserved among the MOMP genes of different *C. trachomatis* serovars, indicating that they are common Th cell antigenic sites. Thus, the Th cell epitopes contained within these peptides, in combination with different trachoma serovar-specific B cell neutralizing determinants, may be useful in the development of a synthetic or recombinant trivalent trachoma vaccine.

L20 ANSWER 45 OF 46 MEDLINE DUPLICATE 24
ACCESSION NUMBER: 89212907 MEDLINE
DOCUMENT NUMBER: 89212907 PubMed ID: 2496033
TITLE: Differential modulation of lymphocyte proliferative responses and lymphokine secretion in mice during development of immunity to Chlamydia psittaci.
AUTHOR: Guagliardi L E; Byrne G I; Paulnock D M
CORPORATE SOURCE: Department of Medical Microbiology, University of Wisconsin Medical School, Madison.
CONTRACT NUMBER: AI19782 (NIAID)
AI21274 (NIAID)
P32ES07014 (NIEHS)
SOURCE: INFECTION AND IMMUNITY, (1989 May) 57 (5) 1561-7.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198906

ENTRY DATE: Entered STN: 19900306
Last Updated on STN: 19970203
Entered Medline: 19890601

AB A murine model was utilized to study immune responses occurring during the period of acquisition of immunity to chlamydial infection. C3H (H-2k) mice were immunized by intramuscular injection of 5×10^3 viable Chlamydia psittaci elementary bodies (EBs) by a protocol which permits animals to survive an otherwise lethal intraperitoneal challenge 10 days later with the homologous chlamydial strain. Spleen cells assayed during the 10-day period of development to immunity showed depressed proliferative responses in vitro to the T-cell mitogen, concanavalin A, and also exhibited suppressor cell activity. Spleen cell mitogen responses returned to normal levels by 30 days postimmunization, concomitant with the detectable development in vitro of responses to **chlamydia-specific antigen**. In marked contrast to the reduced proliferative responses, mitogen-stimulated production of the T-cell-derived lymphokines interleukin-2 and gamma interferon by spleen cells from immunized animals was within the normal range at 10 days postimmunization, and supernatant fluids containing these products had both microbicidal and microbistatic effects on chlamydial organisms in vitro. These results demonstrate that independent regulation of T-cell proliferation and lymphokine production occurs in vivo as part of the development of an antigen-specific protective immune response. These results also suggest that such differential modulation of T-cell responses may contribute to the development of protective immunity to chlamydiae in mice, perhaps through limited T-cell clonal expansion coupled with early or preferential maturation of cytokine-secreting helper T cells.

L20 ANSWER 46 OF 46 MEDLINE DUPLICATE 25
ACCESSION NUMBER: 86167317 MEDLINE
DOCUMENT NUMBER: 86167317 PubMed ID: 3485615
TITLE: Immune mechanisms in chlamydial eye infection. Development of T suppressor cells.
AUTHOR: Young E; Taylor H R
CONTRACT NUMBER: EY-01765 (NEI)
EY-03324 (NEI)
SOURCE: INVESTIGATIVE OPHTHALMOLOGY AND VISUAL SCIENCE, (1986 Apr)
27 (4) 615-9.
Journal code: 7703701. ISSN: 0146-0404.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198605
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 19970203
Entered Medline: 19860513

AB In vitro proliferation assays of whole peripheral blood mononuclear leukocytes (PBML) and PBML depleted of suppressor T cells were performed in cynomolgus monkeys after they had received one, two, or repeated ocular inoculations with Chlamydia trachomatis. Whole PBML responded only weakly to **chlamydial antigen**, and responses to concanavalin A were depressed for 12 wk following ocular infection. Depletion of the suppressor T cell population did not result in increased chlamydia-specific proliferation until 14-20 wk after initial antigen contact, suggesting that circulating suppressor T cells are not responsible for the initiation of the chronic state.

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Search completed by David Schreiber 308-4292